

terly, first argent, three cinque foils gules. Darcy; second argent, a fess between six oak-leaf gules, Fitzlangley; third, argent a fess ermineo, between two bars gemelles sable, Harleston; fourth argent, a chevron, in the dexter canton an armulet sable, Wauton; fifth gules, a goat salient argent, Herdewell; sixth quarterly gules and argent, in the first quarter an eagle displayed vert, Pakenham; the whole impaling Kyston; supporters, griffons, bearing on the extended wing of each two roses.* On the frieze below the two last shields are these words:

*Opus hoc fieri fecit Comr Kyston.
Anno Dni MCCCXXIX. Crisimus Orlabo.*

Upon the brackets of the windows are fixed three other shields, hanging over the entrance, and supported by the figures of naked boys, wreathed with garlands. The centre shield, surmounted by a knight's helmet, bears the arms of Kyston; sable, three Lucres hauriant argent, a chief or. On the dexter shield are the arms of Sir Thomas Kyston, impaling those of Margaret his wife; viz. first and fourth, paly of six, argent and azure, on a chief gules three besants, for Donnington; second and third argent, a chevron between three mullets gules, said to be the coat of Broughton. The sinister shield presents the arms of Sir Thomas Kyston the younger, impaling those of Elizabeth his wife, as follows: sable, gutti d'eau, on a fess argent three Cornish choughs proper, for Cornwallis; second, sable, three bars gemelles argent, Buckton; third, sable, a cross moline or, Braham; fourth, argent, a bend between six crosslets fitchy sable, Teye; fifth, argent, within a bordure, engrailed gules, two chevrons azure, Tyrrel; sixth, azure a chevron between three sea pikes argent, Stamford. The battlements of the gate-house, assuming the appearance of small galleys, the points of which, crowned with richly-carved hooped garlands and vanes, correspond with those of the triple dome below, give height to the whole, and complete the beauty and harmony of the design."

AS TO THE CITY OF LONDON SEWERS.

SIR.—The opinion of that utterly unknown person, "the late Surveyor of the City Sewers," having been mentioned by Mr. Lawson, in conjunction with that of a gentleman with whose name his ought not to be whispered in a summer's day, will you permit that insignificant body to speak a word for himself in your useful publication? I certainly have a very obstinate opinion that a semi-circular-bottomed sewer is sufficiently, if not perfectly, adapted for every purpose of sewage; and I have also a very obstinate opinion that the sharply-curved bottom of an egg-shaped sewer is marvellously inconvenient for walking in; and I have also an extremely impertinent opinion that there is a vast deal of humbug in the popular cry of "egg-shaped;" and I also have a very indignant opinion that there has long been a settled purpose to decry every thing connected with the city, and to suppress every thing that may in the slightest degree be creditable to it. In the spirit of fairness and even-handed justice, will you allow me, Sir, to put the public, through you, in possession of some facts, which have, in high quarters, been sedulously kept out of sight? In 1768 George Wyatt introduced the use of semi-circular-bottomed sewers and of barrelled drains in the city of London; and they were never deviated from until 1829, when I, in carrying out the London-bridge sewer, which was projected and commenced by my good master Samuel Acton, advised the use of the ellipsis. George Wyatt at first used upright sides; but at least as early as 1778 he introduced the practice of sloping the sides outwards. I need not point out to you, Sir, that such a section recognizes the principle of the egg-shape. His successor, Nathaniel Wright, always built his sewers with upright sides. His successor, Samuel Acton, in 1823,

re-introduced the nascent egg-shape, making the sewer in Wallbrook 6 inches wider at the top than at the bottom; and in every sewer built by him between 1823 and 1829, a similar practice was adhered to. I, for him, and in my own works, when I succeeded him, used the elliptical section, until inconveniences were found attendant upon it. Of later years I used George Wyatt's invention, the sewer with sloping sides.

In 1846 the commissioners, at the instance of Mr. William Lawrence, a commissioner, adopted the truly-formed egg section. In your publication I, under an anonymous signature, shewed how the egg-form should be described. Had I been so mean-spirited as to have claimed the invention of another as my own, the works of Sebastian Serlio are so sufficiently scarce, as in all probability to have allowed me many years' possession of the borrowed plumage. I am not so fortunate as to possess the book; it is probably more than twenty years since I saw it, but my impression is, that he only shewed how an elliptical form, adapted for the outline of vases, could be described; and that the application of the principle to striking an egg really was my own. I have since that even described an egg by points obtained without the use of any centre.

As to the introduction of curved junctions, about thirty-one years since I submitted a plan for building upon the then vacant ground between Edinburgh and Leith, containing that systematic sewage which I thought adapted for the locality. Several miles lineal of sewers were delineated, without a single instance of any other junction than in bold curves or in acute angles.

In January, 1832, I, for my master, laid down an extensive series of sewage, connected with his main trunk at London-bridge, in which the principle of junction in the largest curves which could be obtained was distinctly shewn. This was not carried out, because that I saw it advisable to change the course of the trunk line; but long lines of sewer were built by me with circular junctions, not only before that I had heard of their being used elsewhere, but before I had even remotely thought there was any thing marvellously beyond the pale of common sense in the contrivance. These, Sir, are truths; they can be— they have been—established, by reference to dates and records; but, because that it subserves some purpose in every practicable way to depreciate the city of London, these truths are held to weigh as nothing; and it is yet daily in the mouths of itinerant lecturers, that "all the sewers and all the drains within the city have flat bottoms, and that no improvement whatever has been originated in, or adopted by, the city."—I am, Sir, &c.,

"THE LATE SURVEYOR OF THE
CITY SEWERS."

THE CONDITION OF RAILWAY LABOURERS.

DURING the discussion on the Railways Bill, in the House of Commons, Mr. Stafford urged the claims of the labouring population engaged on railways, and said, in considering the hundreds and thousands of labourers whose interests were affected by railways—in considering the millions of money which had been embarked in these speculations, he had only been able to discover, among all the Acts of Parliament which had been passed on the subject, one solitary Act in reference to the labourer; and this simply related to the payment of special constables who were required for keeping the peace. The House must be aware that, in dealing with this large body of labourers, they were dealing with a new nation—a nation because of their numbers and power, and a new nation, because, whatever difficulties the House might have in interfering with vested interests, there were no difficulties of that kind when they were at the commencement of a new system, and giving laws to a new state of society; so that, whether as regarded the question of residences, or the question of comfort, or the question of health, or the question of morals, he maintained that their responsibility in reference to those things was far greater than it would have been if they had to deal with existing usages and established rights. On the question of resi-

dences, the Rev. J. R. Thompson was asked before a committee, appointed in 1846, "Are the huts at all equal to the class of houses which are generally occupied by the labouring population?" He answered, "I never saw any thing to be compared to them." "Will you describe them to the committee?" he was asked. He said, "I can only describe them as being built against a hedge or bank, the rafters sloping from this bank, and the sides and ends of turf. In some cases, I believe, they are just boarded inside, in some cases they are not; in some cases there is no partition; man, woman, and child all sleep exposed to one another. Mr. Rawlinson was asked, "What is the effect upon the habits and characters of the men, where there is a want of accommodation? Can you tell us from your experience?" He replied, "I should say, where the men are crowded together, as they are in that district, the work being carried on night and day, the beds in all the cottages were let double, and as soon as one set of men came out of them, after they had had their meals, another set were to take their place. The rooms were overcrowded; there could be no separation of the sexes; and demoralization existed to a large extent among the native population. With reference to drawbacks, the Rev. R. Wilson was asked, "Do you think generally men would be disposed to work for lower wages, if they were sure to be paid weekly, and in money?" He said, "I think, undoubtedly, they would—no doubt they ought. There is another thing deducted from their wages, which is beer, whether they like it or not; by the rules on certain parts of the railroad, the labourers are compelled to take a certain quantity of beer." Mr. Rawlinson said, "These men were getting upon that work from 3s. 6d. to 4s. a day, yet such was the excitement and lawless habits of the men in the district, that it was no more to them than 2s. 6d. a day, if they could have been comfortable and quiet, and could have lived rationally;—the high wages were a curse rather than a blessing to them." It is to be hoped that some effectual means may be speedily devised to improve the condition of the immense masses of men gathered together on these works.

PUBLIC BATHS AND WASHHOUSES.

SIR,—Your correspondent "A Londoner," in his letter in THE BUILDER of December 25, on "What should a Sanitary Bill contain?" has made a statement which ought not to pass without notice. He asserts that the "Act" empowering and allowing public corporations and parishes to erect baths and washhouses is a complete failure. I might ask him which of the three public baths and washhouses he means by the "Act?" but without putting him to the inconvenience of answering such a question, it may be sufficient to say that, in other respects, he evidently wrote "without hook." Public baths and washhouses are not like watch-houses or turnpike-houses. They cannot be run up in a week; and the best mode of constructing them and fitting them up has yet to be learned. "A Londoner's" letter reminds me of the question which a little child asked the other day—"Pray, papa, has all London been discovered yet?" If your correspondent will pay a visit to Orange-street, Leicester-square, he will see the best possible proof that Sir Henry Dukesfield's Acts are not "a dead letter" in the parish which has the advantage of being his vicarage. If he will inquire of the vestry-clerks of several neighbouring parishes, he will find that the "Act" has been adopted by them, and that it is not for the want of good will but of sites (not easily to be found in London, as I can tell him from experience, that the works have not been commenced. If he will go beyond Cockneydom, he may inquire of the town clerks of Manchester, Birmingham, Leeds, Newcastle-upon-Tyne, Hull, Preston, Bristol, Bath, Exeter, Plymouth, Southampton, Worcester, and other boroughs in England, as well as of Dublin, how far the corporations of those places regard the Acts as "a dead letter."

The fact is, that the adoption of the Acts, considering how lately they passed, has been more general than could have been relied on

* The shields, with their supporters, adorning this window, are part of the original design, though some of the bearings are of later acquirement. Hence, neither the unicorn, nor the griffin, supporting the arms of Cavendish and Darcy, belong to these houses. The griffin crest furnished the unicorn; and probably the griffin, with the roses, were borrowed from the devices of the merchant adventurers, who have the Porpoise for supporters, with two roses on the extended wings.